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US 4601477

US 4285129

US 3823473

(58) Field of search

B5L

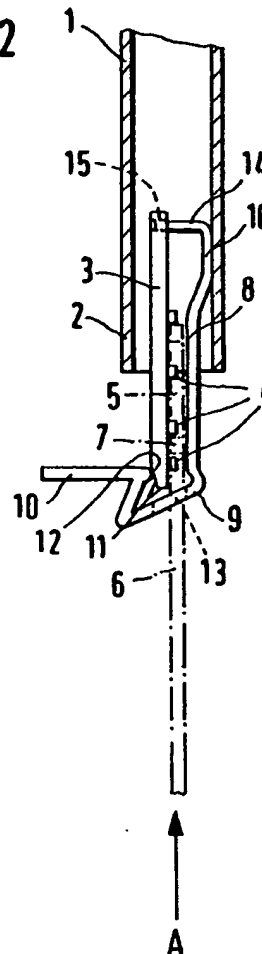
B4B

Selected US specifications from IPC sub-classes B23D
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(54) Clamping device for saw blades

(57) A clamping device for saw blades (6) comprises a locating plate (3) and a spring (8), forming a locating opening for a clamping end (5) of a blade (6). In a preferred embodiment, plate (3) is fixed in a holder (1) of a power-driven jigsaw and the clamping end (5) has means (5), for a positive mounting, which cooperate with studs (4) or the like on the plate (3). Preferably spring (8) is a leaf spring with a hook-shaped end (9) having an opening (13) which grips over the outer end of the locating plate (3) in order to lock the spring (8) in the clamping position, and the clamping device can be manipulated without an auxiliary tool via a tab (10).

FIG. 2



GB 2 192 363 A

FIG. 1

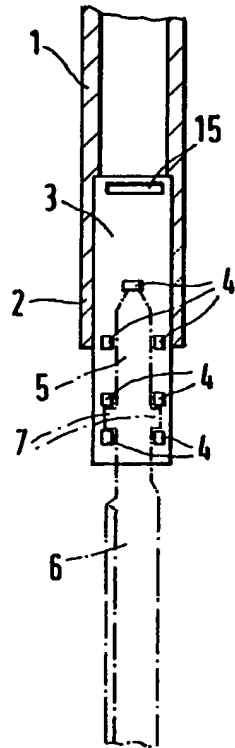


FIG. 2

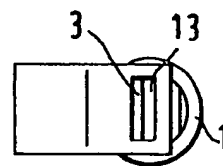
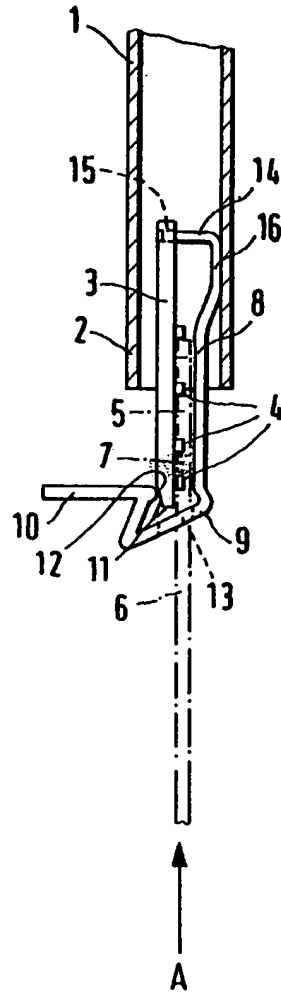


FIG. 3

SPECIFICATION

Clamping device for saw blades

- 5 The invention is based on a clamping device according to the generic part of the main claim. Clamping devices have already been disclosed by the German Offenlegungsschriften 2,500,788, 2,753,560 and 3,006,229; and
10 also by the German utility model 7,710,558. In these devices, the clamping end of the saw blades is clamped in position by means of clamping screws, cap nuts or other rotatable clamping bodies on the end of the stroke rod
15 of such jig-saws.

- The production and handling which this requires is relatively complicated. In nearly all cases, auxiliary tools are required for changing the saw blades. Unclamping and clamping
20 always requires considerable force.

Advantages of the invention

- In contrast, the clamping device according to the invention with the characterizing features of the main claim has the advantage that it is more simple to produce and can be handled without tools. The saw blades can be changed quickly and reliably as a result of the elastic embodiment of a wall of the locating
25 slot for the clamping end of the saw blades. Moreover, the best protection against accidents is provided, because changing the saw blades always requires the use of both hands.

- Advantageous further developments and improvements of the clamping device specified in the main claim are possible by the measures stated in the sub-claims. Especially advantageous is the design with a leaf spring having a hook-shaped outer end which locks
30 automatically behind the locating plate. This makes the mounting of the clamping end even more reliable. Moreover, as a result of the supporting surface running at an angle at the outer end of the locating plate, the automatic locking is possible even when the clamping
40 ends vary in thickness. The clamping point remains easily accessible, so that even broken-off clamping ends of saw blades can be easily removed. The saw blades can easily
45 be changed at any position of the stroke rod.
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Drawing

- An exemplary embodiment of the inventive subject matter is shown in the drawing and described in greater detail in the following description. Fig. 1 shows a section through a stroke rod equipped according to the invention and having a clamped saw blade, Fig. 2 shows a side view of Fig. 1, likewise sectioned, and Fig. 3 shows a view of Fig. 2 in direction A.
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Description of the exemplary embodiment

- A stroke rod 1 of a jig-saw (not shown in greater detail) is made as a cylindrical tube. A
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- locating plate 3 is firmly inserted into the end 2 of the stroke rod. The locating plate 3 has studs 4 which are adapted to the contours of the clamping end 5 of a jig-saw blade 6. For
70 positively locking in the longitudinal direction of the jig-saw blade 6, the clamping end 5 has two lugs 7. Facing the locating plate 3 is a leaf spring 8 which has a hook-shaped outer end 9 which runs out into a tab 10. The
75 hook-shaped end 9 grips over the outer end of the locating plate 3 and is supported against a rear supporting surface 11 of the locating plate 3 which runs at an angle. For this purpose, the hook-shaped end 9 has a
80 probing surface 12. A slot-shaped opening 13 in the hook-shaped end 9 serves as a passage for the clamping end 5. The stroke-rod-shaped end 14 of the leaf spring 9 is angled and engages into a retaining opening 15
85 which pertains to the locating plate 3 and is correspondingly formed in cross-section. An offset part 16 of the leaf spring 8 is supported against the inner wall of the stroke-rod end 5 opposite the locating plate 3. The leaf
90 spring 8 thus receives its tension directed towards the locating plate 3.

- For inserting a jig-saw blade 6, the leaf spring 8 is gripped at the tab 10 and moved out of the locking position according to Fig. 2.
95 The clamping end 5 is then pushed through the opening 13 until this clamping end butts against the innermost stud 4 and the lugs 7 snap in between the other studs 4. The tab 10 is then released again. On account of the inherent elasticity of the leaf spring 8, the
100 hook-shaped end 9 of the leaf spring 8 swings in again over the outer end of the locating plate 3 until the probing surface 12 strikes the supporting surface 11. The leaf spring 8 then rests against the clamping end 5 over the entire length of the latter and secures it in position over the hook-shaped end 9 with its spring force. Two hands are therefore always required for inserting the jig-saw blade 6 or
105 for replacing it. One hand is used for holding the jig-saw blade 6 and the other hand is used for opening the clamping device at the tab 10. Different thicknesses of the clamping end 5 are compensated for by the angled supporting surface 11.
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CLAIMS

1. Clamping device for saw blades, in particular for power-driven jig-saws, the flat clamping end of which is provided with projections or penetrations for positively mounting on the stroke-rod end of the jig-saws, characterized in that a locating plate (3) formed such that it is correspondingly adapted to the clamping end (5) is fixed on the stroke-rod end (2) and is joined together with a facing spring (8), forming a locating opening for the clamping end (5) of the saw blades (6).
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130 2. Clamping device according to Claim 1,

characterized in that the spring is a leaf spring (8).

3. Clamping device according to Claim 1, characterized in that the spring (8) is designed such that it grips over the mouth of the locating opening formed by the locating plate (3) and the spring (8) itself and such that it is self-locking at the surface (11) of the locating plate (3) remote from the saw blade (6), and at the same time leaves open a passage opening (13) for the clamping end (5).

4. Clamping device according to Claim 3, characterized in that the spring is a leaf spring (8) with a hook-shaped outer end (9) which has a slotted opening (13) as a passage opening and is shaped such that it grips elastically behind the locating plate (3) and is supported there and forms a handle (10) for releasing this locking connection.

5. Clamping device according to Claim 1, characterized in that the end (14) of the spring (8) on the stroke-rod side is angled and engages into a retaining opening (15) in the locating plate (3).

6. Clamping device according to Claim 1, characterized in that the locating plate (3) is inserted into the end of a stroke rod (1) of tubular configuration and is fixed there, for example cemented, brazed, pressed or welded in place.

7. Clamping device according to Claim 4, characterized in that the handle at the outer end of the leaf spring (8) is a tab (10) adjoining the hook-shaped end (9).

8. Clamping device according to Claim 3, characterized in that the locating plate (3), at the outer end, has a supporting surface (11), running at an angle, for the spring (8).

9. A clamping device substantially as herein described with reference to the accompanying drawings.